

EXHIBIT I

its Request for Proposals to contractors “to avoid potential work interferences.” (*Id.*) Referring to the major component replacements at both Units 1 (economizer, reheater, lower slopes, and air heaters) and 2 (economizer, reheater and air heaters), Ameren stated “Alstom won the competition for this *package of work* with a price for both units of approximately \$44.9 million.” (*Id.*) (emphasis added).

Under the Court’s Case Management Order (ECF No. 89), discovery is ongoing and many of the facts and information responsive to this interrogatory are held by the Defendant and have been requested by Plaintiff. Plaintiff reserves the right to supplement this response as additional facts are gathered during discovery.

INTERROGATORY NO. 2:

Describe with specificity all facts supporting your contention that emissions of sulfur dioxide (SO₂) increased or should have been expected to increase after each Project. Your answer should include, but not be limited to, the following information:

INTERROGATORY NO. 2(a):

a) For each Project, specify whether you contend that the Project should have been expected to cause a significant net emissions increase of SO₂, actually caused a significant net emissions increase of SO₂, or both.

RESPONSE TO INTERROGATORY NO. 2(a):

Plaintiff objects to this interrogatory because it calls for information protected from discovery by the work-product doctrine, attorney-client privilege, deliberative process privilege, or otherwise seeks information protected from discovery by the Federal Rules of Civil Procedure and/or Discovery Agreements. Fed. R. Civ. P. 26(b). Plaintiff objects to this interrogatory as irrelevant, in part, because a PSD violation does not require that EPA “wait and see” whether a project actually increases emissions. Plaintiff further objects to this interrogatory as premature. More complete information regarding the operation and construction activities at the Rush Island

Plant is in the possession of Ameren. Discovery is ongoing and many of the facts and information responsive to this Interrogatory have been requested by Plaintiff. In addition, Plaintiff objects to this interrogatory as premature to the extent this information will be the subject of expert discovery in this case. Plaintiff reserves the right to update this response as further information becomes available through discovery and the evaluation of information by expert witnesses. Without waiving these objections or its general objections, and subject to them, the Plaintiff answers as follows:

Plaintiff contends that each Rush Island Project should have been expected to result in a significant net emissions increase of SO₂, as described in Plaintiff's Response and Objections to Interrogatories 2(b) below. To the extent relevant, Plaintiff also contends that actual emissions increased after the Projects as well.

INTERROGATORY NO. 2(b):

b) If you contend that any Project constituted a major modification because, in whole or in part, the Project should have been expected to cause a significant net emissions increase of SO₂, describe with specificity all facts that support your contention, including:

- 1. the specific amount (in tons per year) by which you contend emissions should have been expected to increase as a result of the Project;**
- 2. the method(s) you used for projecting or determining that post-project emissions should be expected to increase, including the means you claim should be used to predict future emissions, the pre-project or baseline time period(s) used in the method(s) and the post-project time period(s) used in the method(s);**
- 3. the individual(s) responsible for selecting and applying the method(s) identified in Interrogatory No.2(b)2.;**
- 4. all data used in the method(s) you identified and the source of such data;**
- 5. identify all individuals with knowledge of facts supporting your contention; and**

6. the date or time period when you first determined that any Project constituted a major modification because, in whole or in part, the Project should have been expected to cause a significant net emissions increase of SO₂.

RESPONSE TO INTERROGATORY NO. 2(b):

Plaintiff objects to Interrogatory 2(b) because it calls for information protected from discovery by the work-product doctrine, attorney-client privilege, deliberative process privilege, or otherwise seeks information protected from discovery by the Federal Rules of Civil Procedure and/or Discovery Agreements. Fed. R. Civ. P. 26(b). Plaintiff objects to this interrogatory as premature because it calls for data, information, conclusions, and opinions to be developed or discussed by expert witnesses where, as here, final expert reports have yet to be served. Finally, Plaintiff objects to this interrogatory to the extent that the information requested is protected from discovery under the Parties' expert discovery agreement. Without waiving these objections or its general objections, and subject to them, Plaintiff answers as follows:

Plaintiff intends to provide expert testimony to explain why the Projects at issue should have been expected to increase emissions of SO₂. That testimony will be disclosed in accordance with the Court's case management order. Defendant will have a full and fair opportunity to depose any expert witnesses offered by Plaintiff on this issue.

Plaintiff prepared screening-level analyses of the Projects at issue to determine whether they should have been expected to increase emissions. Those analyses were done at the request of counsel and are privileged and attorney work-product. Plaintiff does not intend to rely upon these screening-level emissions estimates at trial or on summary judgment; experts will provide the analysis, as explained above.

Nonetheless, in a separate lawsuit filed in this Court, Ameren has sought to compel EPA to disclose its screening-level analyses of emissions pursuant to the Freedom of Information Act (“FOIA”). *See Ameren Missouri v. United States Environmental Protection Agency*, 4:11-cv-02051-AGF. One of the issues in the FOIA case is whether applicable legal privileges, including the attorney-client privilege and the attorney work-product doctrine, attach to EPA’s screening analyses. The summary judgment briefing on the FOIA lawsuit is complete. Having chosen the forum in which it wishes to resolve this issue, Defendant should await the Court’s ruling in the FOIA matter, rather than asking two Judges to review the same issue.

The screening-level air pollution analyses discussed below were performed to support the Amended Complaint filed against Ameren.

In addition to the air pollution analyses described below, and with respect to the Rush Island Unit 2 project in 2010, Plaintiff relied, in part, upon air pollution analyses performed by Ameren that were not disclosed or reported to EPA or the Missouri DNR at the time it was prepared. (*See* AUE-00170960 – 00170960.1). Information regarding this air pollution analysis is held by Defendant.

In preparing its screening calculations, Plaintiff calculated a conservatively low estimate of the air pollution increases that Ameren should have expected as a result of each Rush Island Project. The data necessary to perform these air pollution analyses are within the possession and control of Ameren. Plaintiff relied on information provided by Ameren in response to requests for information under Section 114 of the Clean Air Act. Reflecting the purpose of the PSD program to prevent excess air pollution before it occurs, applicable law requires a source to project its post-modification air pollution before it undertakes construction. Plaintiff performed

its air pollution analyses based on information available to Ameren prior to performing the modifications.

Using information available to Defendant prior to each Project, Plaintiff concluded that Defendant should have expected the Project to result in a significant net emissions increase of SO₂. In making that determination, Plaintiff first identified the increase in hours of operation enabled by the Project and multiplied those increased hours by the production rate to arrive at the increase in generation, in megawatt hours ("MWhrs"), caused by the Project. For coal-fired electric generating units, the production rate is the Net Output Factor. The Net Output Factor is a unit's net actual generation divided by the product of its service hours and net maximum capacity. Plaintiff then calculated any increases in generation due to any increases in Unit capacity as a result of the Project. Plaintiff then added the generation increases due to the Project to the Unit's generation during the baseline period to arrive at the total post-Project generation from the Unit. The calculation isolates the generation increase, if any, due solely to the Project, and does not include generation increases due solely to demand growth or other factors independent of the Project.

Second, Plaintiff converted total post-project generation into total post-project emissions using an emissions factor for the relevant pollutant derived from Defendant's own emissions data for the Unit. In this step, Plaintiff accounted for any significant heat rate improvements that Ameren stated in its own Project documents that it expected to gain from the Project at the Unit.

Third, Plaintiff subtracted the Unit's emissions of SO₂ during the applicable baseline period from the total post-Project emissions of SO₂ to determine the air pollution increase, if any, attributable to the Project. If the difference between total post-Project emissions and baseline emissions was positive, and if that increase was greater than 40 tons per year for SO₂, then

Plaintiff concluded that Defendant should have expected the Project to trigger PSD requirements for SO₂ at that Unit.

The following persons, in consultation with others within EPA and the Department of Justice, analyzed the facts referred to in this interrogatory response and may be contacted through counsel for Plaintiff: Lisa Hanlon, EPA Region 7; Jon Knodel, EPA Region 7; Eric Sturm, formerly EPA Region 7.

INTERROGATORY NO. 2(c):

c) If you contend that any Project constituted a major modification because, in whole or in part, the Project actually caused a significant net emissions increase of SO₂, describe with specificity all facts that support your contention, including:

- 1. the specific amount (in tons per year) by which you contend emissions actually increased as a result of the project;**
- 2. the method(s) you used for determining that post- project emissions increased, including the means you claim should be used to calculate post-project actual emissions, the pre-project or baseline time period(s) used in the method(s) and the post-project time period(s) used in the method(s);**
- 3. the individual(s) responsible for selecting and applying the method(s) identified in Interrogatory No.2(c)2.;**
- 4. all data used in the method(s) you identified and the source of such data;**
- 5. identify all individuals with knowledge of facts supporting your contention and**
- 6. the date or time period when you first determined that any Project constituted a major modification because, in whole or in part, the Project actually caused a significant net emissions increase of SO₂.**

RESPONSE TO INTERROGATORY NO. 2(c):

Plaintiff objects to this request as vague, ambiguous, and not reasonably calculated to lead to the discovery of admissible evidence. Plaintiff further objects that air pollution analyses

are a subject for expert testimony in this case, and Plaintiff has not yet received from Defendant documents responsive to Plaintiff's First Set of Requests for Production. Discovery in this case has not yet concluded, and Plaintiff reserves the right to supplement this response as additional information is discovered. Thus, the air pollution analyses described below may be updated before trial and will be disclosed to Ameren in accordance with the schedule set by the Court. The air pollution analyses described below were prepared based on the limited information available at this time, and were prepared solely to provide conservative estimates of air pollution increases. Subject to and without waiving the foregoing objections, Plaintiff responds as follows:

Plaintiff has prepared air pollution analyses that compare SO₂ emissions after each Rush Island Project to the High 2 of 5 Emissions Baseline before the Project. The results of those air pollution analyses are summarized in the table below, which has already been provided to Defendant (ECF No. 51):

Project in Amended Complaint	Pre-Project Actual emissions (Tons of SO₂)	Post-Project Actual Emissions (Tons of SO₂)	Actual Emissions Increase (Tons of SO₂)
Rush Island Unit 1 2001 Project	14,130 tons 2-Year Baseline Period: Mar-99 to Feb-01	15,355 tons (Feb-05 to Jan-06)	1,226 tons
Rush Island Unit 2 2003 Project	13,957 tons 2-Year Baseline Period: Nov-98 to Oct-00	14,673 tons (Oct-04 to Sep-05)	717 tons
Rush Island Unit 1 2007 Project	14,875 tons 2-Year Baseline Period: Feb-05 to Jan-07	15,539 tons (Feb-08 to Jan-09)	665 tons

Rush Island Unit 2 2010 Project	14,287 tons 2-Year Baseline Period: Apr-05 to Mar-07	16,459 tons (May-10 to Apr-11)	2,172 tons
------------------------------------	--	---------------------------------------	-------------------

EPA's PSD regulations that applied at the time of each Project allow a utility to select, as a baseline for its emission calculations, the average rate, in tons per year, at which the Unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the Project. 40 C.F.R. § 52.21(b)(48)(i) (2002); 40 C.F.R. § 52.21(b)(21)(ii) (1998). Here, using simple arithmetic and Ameren's publicly available emissions data, Plaintiff calculated the average annual emissions of SO₂ for the highest 2 consecutive years of emissions in the 5 years before each project, which is the baseline period most favorable to Ameren. Further, as allowed by the EPA's PSD regulations, described further below in response to Interrogatory No. 3, this table compares each Rush Island Unit's baseline actual emissions of SO₂ to the highest year of actual SO₂ emissions in the 5 years following the Project. 40 C.F.R. § 52.21(b)(41)(i) (2002); 40 C.F.R. § 52.21(b)(33) (1998); 57 Fed. Reg. 32,314, 32,325 (July 21, 1992). The final column, titled "Actual Emissions Increase," represents the difference between Pre-Project Baseline Actual Emissions and Post-Project Actual Emissions. Even if Ameren disputes the precise amount of emissions before or after the Projects, there can be no dispute that the actual emissions increases are well above the 40 ton per year significance threshold. Ameren bears the burden of determining what portion of the confirmed actual emissions are excludable as unrelated to the Project.

The air pollution analyses responsive to this Interrogatory No. 2(c) were prepared before the Amended Complaint was filed. The following persons, in consultation with others within EPA and the Department of Justice, analyzed the facts referred to in this interrogatory response

and may be contacted through counsel for Plaintiff: Lisa Hanlon, EPA Region 7; Jon Knodel, EPA Region 7; Eric Sturm, formerly EPA Region 7.

INTERROGATORY NO. 3:

With respect to the emissions calculation method(s) you identified in response to Interrogatory Nos. 2(b)(2) and 2(c)(2):

a) **Identify all factual and legal bases which you contend authorizes and/or permits your use of those method(s), including any documents (including administrative guidance, federal or state statutes or regulations, interpretations, hearing testimony, expert testimony, applicability determinations, and/or responses or comments to rulemakings) that discuss, analyze or describe any such method; and**

RESPONSE TO INTERROGATORY NO. 3(a):

Plaintiff incorporates by reference its General Responses and General Objections, above. Plaintiff also objects to this interrogatory to the extent it seeks legal determinations or conclusions regarding the applicable guidance, regulations, and statutory provisions at issue in this case. These legal determinations will be made by the Court in this case. Without waiving these objections or its general objections, and subject to them, Plaintiff's response to Interrogatory 3(a) is set forth below.

The bases for Plaintiff's air pollution analyses can be found in the versions of the Missouri SIP and EPA's PSD regulations that applied the time of the Projects. Prior to 2006, EPA's PSD regulations, 45 Fed. Reg. 52,676 (Aug. 7 1980), applied through substantially equivalent provisions of the Missouri SIP at 10 C.S.R. 10-6.060(8). Additionally, EPA's preamble and PSD regulations at 57 Fed. Reg. 32,314 (July 21, 1992) clarify EPA's 1980 PSD regulations for electric generating units. The PSD rules require a source to predict, before undertaking a project, whether a change "would increase the actual annual emission of a pollutant above the actual average for the two prior years." *Env't'l Defense v. Duke Energy*

- Letter from Margaret M. Guerriero, EPA, to Paul Dubenetzky, IDEM (October 21, 1999), available at <http://www.epa.gov/region07/air/nsr/nsrmemos/culley.pdf>;
- Letter from William Rosenberg, EPA to John Boston, Wisconsin Electric Power Co. (June 8, 1990) available at <http://www.epa.gov/region07/air/nsr/nsrmemos/wepco.pdf>;
- 1980 PSD Regulations, 45 Fed. Reg. 52,676 (Aug. 7, 1980);
- 1992 WEPCO Rule, 57 Fed. Reg. 32,314 (July 21, 1992);
- *Env't'l Defense v. Duke Energy Corp.*, 549 U.S. 561 (2007);
- Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR), Notice of Proposed Rulemaking, 61 Fed. Reg. 38,250, 38,268 (July 23, 1996).
- Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects, 67 Fed. Reg. 80186 (Dec. 31, 2002);
- Prevention of Significant Deterioration and Nonattainment New Source Review: Reasonable Possibility in Recordkeeping, 72 Fed. Reg. 72,607 (Dec. 21, 2007);
- Email authored by Bobby McMurry, Duke Energy Re: MSS 3&4 mill replacement and PSD/NSPS mtg 5/20/97, attached as Exhibit B to these Interrogatory Responses.

Other guidance documents may be found in EPA Region 7's NSR Policy and Guidance

Database, which is a repository of EPA applicability determinations, guidance documents, and

Title V petition orders on NSR requirements and Title V Requirements. This database is

available at the following website: <http://www.epa.gov/region07/air/policy/search.htm>.

INTERROGATORY NO. 4:

Identify and describe what you contend was the cause or causes of the actual or projected emission increases you identified in response to interrogatory no. 2, and state with specificity all facts or legal authority supporting your contentions, including but not limited to whether you contend that other factors or events unrelated to the Projects caused or contributed, in any degree, to the alleged increase in emissions, and quantify the amount of increased emissions caused or contributed by such factors.

RESPONSE TO INTERROGATORY NO. 4:

Plaintiff objects to this interrogatory to the extent it calls for information protected from discovery by the work-product doctrine and attorney-client privilege. Plaintiff further objects to this interrogatory to the extent it seeks to require Plaintiff to obtain information not currently in

its possession or to conduct analyses not relevant to this litigation. More complete information regarding the operation and construction activities at the Rush Island Plant is in the possession of Defendant. Plaintiff's responses are based on the limited information thus far provided by Defendant. In addition, Plaintiff objects to the extent this information will be the subject of expert discovery in this case. Plaintiff is continuing to investigate and evaluate these matters and reserves the right to update this response as further information becomes available through discovery and the evaluation of information by expert witnesses. Plaintiff also objects to this interrogatory as premature to the extent that it calls for data, information, conclusions, and opinions to be developed or discussed by expert witnesses where, as here, final expert reports have yet to be served. Plaintiff objects to this interrogatory to the extent that the information requested is protected from discovery under the Parties' Expert Discovery Agreement and/or Fed. R. Civ. P. 26(b). Finally, Plaintiff objects that this interrogatory is not reasonably calculated to lead to the discovery of admissible evidence, as emissions increases unrelated to the Projects are not relevant to this case. Without waiving these objections or its general objections, and subject to them, Plaintiff answers as follows:

See Response and Objections to Interrogatory No. 2. Plaintiff contends that the Rush Island Projects were each the cause of the projected air pollution increases identified using the calculation method described in response to Interrogatory No. 2(b).

The increase in air pollution projected to result from the primary superheater replacement and associated turbine projects at Rush Island Unit 1 in 2001-2002 was related to, and caused by, projected increases in the availability of the unit by reducing failures in the primary superheater.

REDACTED

REDACTED

and thus Defendant should have expected that enabling additional hours of operation, at higher levels of output, would require additional heat input and would result in additional generation from the unit. Indeed, where changes such as the modified and expanded superheater and associated turbine projects are expected to “increase reliability, lower operating costs, or improve other operational characteristics of the unit, increases in utilization that are projected to follow can and should be attributable to the change.” *See* 61 Fed. Reg. at 38,268. Generation from Rush Island Unit 1 results from burning coal, and the combustion of coal releases SO₂ into the atmosphere. Ameren should have expected that the Project would result in burning more coal at Rush Island Unit 1 after the Project than before, leading to an increase of more than the 40 ton per year threshold for SO₂ in the Missouri SIP.

Similar to the Rush Island Unit 1 Project in 2001-2002, the increase in air pollution projected to result from the primary superheater replacement and associated turbine projects at Rush Island Unit 2 in 2003-2004 was related to, and caused by, projected increases in the availability of the unit by reducing failures in the primary superheater. The increases in air pollution projected to result were also REDACTED

and thus Ameren should have expected that enabling additional hours of operation, at higher levels of output, would result in additional generation and emissions of SO₂ from the Unit in excess of the 40 ton per year threshold in the Missouri SIP.

The increase in air pollution projected to result from the replacement of the economizer, reheater, lower slope panels, and air preheaters at Rush Island Unit 1 in 2007 was related to, and caused by, the increased hours of operation enabled by replacing those failing components with new components with improved design and materials. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Thus, Ameren should have expected that the Project would result in burning more coal at Rush Island Unit 1 after the Project than before, leading to an increase of more than the 40 ton per year threshold for SO₂ in the Missouri SIP.

Similar to the Rush Island Unit 1 major component replacements in 2007, the increase in air pollution projected to result from the replacement of the economizer, reheater, and air preheaters at Rush Island Unit 2 in 2010 was related to, and caused by, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] and thus Ameren should have expected that enabling additional hours of operation at Rush Island Unit 2 would result in additional generation from the Unit. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Thus, Ameren should have expected that the Project would result in burning more coal at Rush Island Unit 2 after the Project than before, leading to an increase of SO₂ emissions in excess of the 40 ton per year threshold for SO₂ in the Missouri SIP.